

REMARKS

Claims 1, 2-17, and 19-31 are pending. Claims 1, 9, 12, 15, and 17 are in independent form.

CLAIM 1

In the action mailed January 17, 2007, claim 1 was rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,585,342 to Lin et al. (hereinafter "Lin"). Claim 1 has been amended to recite subject matter related to that recited in former claim 2, which was rejected under 35 U.S.C. § 102(b) as obvious over Lin.

As amended, claim 1 relates to an apparatus that includes a wafer adapted to fit on a wafer stage of a lithography tool. The wafer includes a radiation detector to produce a signal corresponding to an amount of radiation incident on the radiation detector, a processor in communication with the radiation detector to receive the signal, the processor to process the signal from the radiation detector, and a wireless transmitter in communication with the processor to receive results of processing the signal and output a wireless signal based on the results.

The rejection of former claim 2 is based on the contention that it would have obvious for one of ordinary skill to "provide a wireless transmitter to the device of Lin for the purpose of reducing hardware, equipment and set up costs." *See Office action mailed January 17, 2007, page 6, para. 4 (emphasis added).*

Applicant respectfully disagrees. To begin with, Applicant respectfully submits that the addition of a wireless transmitter to Lin's device would increase hardware, equipment and set up costs. Lin's device uses wired connectors 13 both to output measurement results to a computer 3 for data analysis and to receive power from detector power supply 11. *See, e.g., Lin, FIG. 1; col. 3, line 43-48.* Thus, a wireless transmitter represents an increase in hardware, equipment and set up costs vis-à-vis a connector.

The rejection thus amounts to an assertion that it would have been obvious for one of ordinary skill to have increased the hardware, equipment and set up costs of Lin's device by adding a wireless transmitter. No basis for the obviousness of this increase has been established and in fact, this suggestion is based on hindsight.

Indeed, applicant respectfully submits that one of ordinary skill would seek to decrease hardware, equipment and set up costs and avoid wireless transmitters. This is fully consonant with the approach taken by Lin. For example, as discussed above, Lin describes that processing is to be done at a small computer, rather than on wafer 28. This stands in contrast with claim 1, which recites a wafer that includes a processor. By processing remotely from wafer 28, Lin is understood to desire that wafer 28 remain as simple as possible. This is also apparent from Lin's desire to use a single video amplifier and potentially locate MOS switches off-chip. See *Lin*, col. 5, line 55-59.

It is perhaps not surprising that Lin seeks to keep wafer 28 as simple as possible given that Lin intends the scheme of his device to be applicable in e-beam and ion-beam lithography systems. See *Lin*, col. 5, line 63-68. In such systems, charged particles can induce currents even in shielded conductors. See *Lin*, col. 6, line 1-11. It would appear that the function of additional hardware, such as wireless transmitters and processors, could be impaired by such currents.

Accordingly, claim 1 is neither anticipated by nor obvious over Lin. Applicant respectfully requests that the rejections of claim 1 and the claims dependent therefrom be withdrawn.

CLAIM 9

Claim 9 was rejected under 35 U.S.C. § 102(b) as anticipated by Lin.

As amended, claim 9 relates to a system that includes a processor and a radiation detector. The radiation detector is adapted to communicate with the processor and dimensioned to fit on a wafer stage of a lithography tool. The radiation detector includes a detector element to detect an amount of radiation incident on the element, and a memory to store data describing the amount of radiation detected.

Lin neither describes nor suggests a radiation detector that includes such a memory, as recited in claim 9. Indeed, the only memory described in Lin is understood to be located remotely from Lin's device, namely, at computer 3.

Moreover, given the apparent desire to keep wafer 28 as simple as possible, it would not have been obvious for one of ordinary skill to have added a memory to wafer 28. For example, it would appear that the function of a memory on wafer 28 could be impaired by the currents induced by charged particles in e-beam and ion-beam lithography systems.

Accordingly, claim 9 is not anticipated by Lin. Applicant respectfully requests that the rejections of claim 9 and the claims dependent therefrom be withdrawn.

CLAIM 12

Claim 12 was rejected under 35 U.S.C. § 102(b) as anticipated by Lin.

As amended, claim 12 relates to an apparatus that includes a wafer sized to fit on a wafer stage of a lithography tool. The wafer includes a radiation detector to produce a signal describing an amount of radiation incident on the radiation detector, a processor electrically coupled to the radiation detector, the processor to process the signal from the radiation detector, and a memory electrically coupled to the processor, the memory to store data received from the processor. The data results from the processing of the signal describing the amount of radiation incident on the detector.

Lin neither describes nor suggests a wafer that includes both a processor and a memory, as recited in claim 12. Indeed, the only processor and memory described in Lin is understood to be located remotely from Lin's device, namely, at computer 3.

Moreover, given the apparent desire to keep wafer 28 as simple as possible, it would not have been obvious for one of ordinary skill to have added a processor and memory to wafer 28. For example, it would appear that the function of a processor or the function of a memory on wafer 28 could be impaired by the currents induced by charged particles in e-beam and ion-beam lithography systems.

Accordingly, claim 12 is not anticipated by Lin. Applicant respectfully requests that the rejections of claim 12 and the claims dependent therefrom be withdrawn.

CLAIM 15

Claim 15 was rejected under 35 U.S.C. § 102(b) as anticipated by Lin.

As amended, claim 15 relates to an apparatus that includes a wafer substrate sized to fit on a wafer stage of a lithography tool, a radiation detector fabricated on the wafer substrate, a processor attached to the wafer substrate, and a wireless transmitter fabricated on the wafer substrate.

The radiation detector is to produce a signal indicative of an amount of radiation incident on the radiation detector. The processor is electrically coupled to the radiation detector and is to process the signal indicative of the amount of radiation incident on the radiation detector. The wireless transmitter is in communication with the processor to receive results of processing the signal and output a wireless signal based on the results.

Lin neither describes nor suggests a wafer substrate that is attached to a processor attached and on which a wireless transmitter is fabricated, as recited in claim 15. Indeed, the only processor and memory described in Lin is understood to be located remotely from Lin's device, namely, at computer 3.

Moreover, given the apparent desire to keep wafer 28 as simple as possible, it would not have been obvious for one of ordinary skill to have attached a processor to wafer 28 or to have fabricated a wireless transmitter on wafer 28. For example, it would appear that the function of such a processor or the function of such a memory could be impaired by the currents induced by charged particles in e-beam and ion-beam lithography systems.

Accordingly, claim 15 is not anticipated by Lin. Applicant respectfully requests that the rejections of claim 15 and the claims dependent therefrom be withdrawn.

CLAIM 17

Claim 17 was rejected under 35 U.S.C. § 102(b) as anticipated by Lin.

As amended, claim 17 relates to a method that includes loading a wafer-shaped detector onto a wafer stage of a first lithography tool, detecting an amount of radiation from the first lithography tool that is incident on the wafer-shaped detector, and wirelessly transmitting a first signal indicative of the amount of radiation incident on the wafer-shaped detector to a remote receiver.

Lin neither describes nor suggests wirelessly transmitting a first signal indicative of the amount of radiation incident on the wafer-shaped detector to a remote receiver, as recited in claim 17. As discussed above, Lin describes that communication with wafer 28 is to be wired.

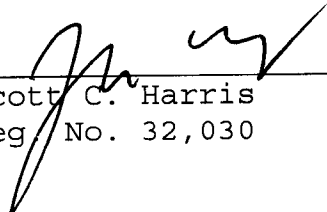
Moreover, here is no reason to believe that one of ordinary skill would depart from such wired communication. Not only does wireless communication increase hardware, equipment and set up costs, wireless communication would appear to be incompatible with the apparent desire to keep wafer 28 as simple as possible.

Accordingly, claim 17 is not anticipated by Lin. Applicant respectfully requests that the rejections of claim 15 and the claims dependent therefrom be withdrawn.

Applicant asks that all claims be allowed. No fees are believed due at this time. Please apply any credits or charges to deposit account 06-1050.

Respectfully submitted,

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